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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

BARRECA, NICOLE M

ART UNIT PAPER NUMBER

1756

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/615,954

Applicant(s)

KWOK ET AL.

Examiner

Nicole M Barreca

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-40 is/are pending in the application.
4a) Of the above claim(s) 39 and 40 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 20-38 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/10/2003.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's election without traverse of Group I, claims 20-38, in the reply filed on 4/23/2004 is acknowledged.
2. Claims 39-40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/23/2004.

Oath/Declaration

3. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:
It does not identify the citizenship of each inventor.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 20, 23, 25, 32-38 are rejected under 35 U.S.C. 102(a) as being anticipated by Kozenkov "Thin photo-patterned internal polarizers for LCD's".
6. Kozenkov discloses a method for forming a photo-patterned polarization film. The second embodiment teaches depositing a 0.1 micron azodye AD-1 photo-alignment

layer on a glass substrate and irradiating with a mask. An isotropic (absorber) solution of lyotropic liquid crystal (LLC) is deposited and when the solvent is evaporated a patterned polarized film formed at a thickness of about 0.5 microns. Color pixilated polarizers with small pixel size can be formed. See figures 1 and 4.

7. Claims 20-27, 31-35, 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Kunihiro JP 10-333154, English translation from JPO).

8. Kunihiro discloses a method for orienting lyotropic liquid crystal. A photo-active molecule layer is orientated by diagonal irradiation or by irradiation with linear polarized light. A lyotropic liquid crystal is brought into contact with the orientated photo-active layer (abstract). Optically activated molecules used for the photo-alignment layer include aromatic azo-compounds [0010]-[0011]. The lyotropic liquid crystal is dissolved in a solvent [0031]. After the light orientation of the photosensitive layer, the LLC layer is heated [0040]. The example teaches forming the photo-active molecular layer on a glass substrate and exposed using linearly polarized light through a photomask. The example also teaches using multiple liquid crystal solutions with different colors and that the photo-alignment layer is exposed multiple times. Various displays may be formed by combining two or more polarizing plates [0040]-[0049].

9. Claims 20, 21, 23-30, 36 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Chigrinov (5838407).

10. Chigrinov discloses liquid crystal display cell manufactured using photo-alignment layers. Photoreactive organic material layer 3 is formed on electrode layer 2 and glass plate 1. The photoreactive layer is irradiated with linear polarized light by

means of a lens 4 behind mask 5. Light comes from polarizer 6 which is illuminated with non-polarized UV light 7. The mask 5 is a set of two complementary masks 8 and 9. after exposure with through both masks the exposed areas are aligned in a twisted orientation (col.2,61-col.3,40). The photo-alignment layer is formed to a thickness of 0.1 micron (col.4, 2). After orientation, a liquid crystal solution is applied to the liquid crystal cell made of the coated plates and heated (col.4, 20-48). See also the claims.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole M Barreca whose telephone number is 571-272-1379. The examiner can normally be reached on Monday-Thursday (9AM-7PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nicole Barreca

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Patent Examiner

Art Unit 1756

7/8/04

Michigan